

*Pieces of Iowa's Past*, published by the Iowa State Capitol Tour Guides weekly during the Legislative Session, features historical facts about Iowa, the Capitol, and the early workings of state government. All italicized text/block quotes in this document are taken directly from historical publications with the actual spelling, punctuation, and grammar retained.

## **Background**

The Capitol Commissioners were authorized to change the plans of the Capitol, but they were not authorized to construct the center dome until the Legislature appropriated funds for that purpose.

The Capitol Commissioners asked the Legislature for permission to spend existing appropriations as they saw fit rather than requiring, and waiting for, an additional appropriation for the main dome



construction. By November 1879, architects Mifflin Bell and William Hackney were once again reporting on the importance of finishing the dome.

## **Commissioners' Report**

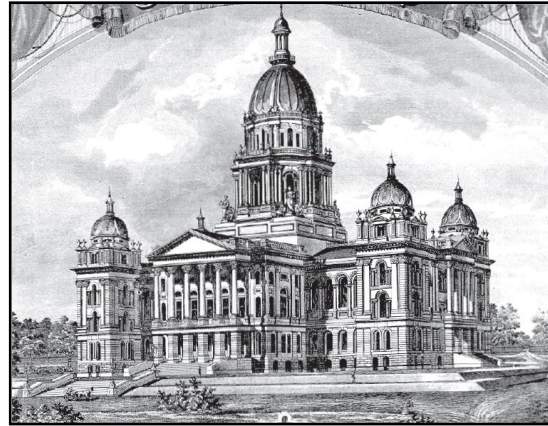
**Regarding the completion of the main central dome, our views were fully set forth in our report of 1877; and we now desire in this report to further impress upon the board, if possible, the importance of completing this important feature while it can be done to the best advantage, as we believe that any further delays in the construction of the dome will result in the loss of many thousands of dollars to the State.**

**We therefore recommend that, as soon as the necessary appropriations are made, the entire material entering into the construction of the dome be procured, and the work completed as rapidly as possible, consistent with good work. The building will then be entirely in-**

closed, when the work of finishing the interior can be performed to advantage.

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Architectural plans for the dome were changed several times, such as reducing the height and the weight and bringing the dome more into proportion with the entire building. Bell had redesigned the dome after the original architect, Alfred Piquenard, died in 1876. Bell and Hackney believed Piquenard's original design resembled a steeple rather than a dome.



**Original design**

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### **Commissioners' Report**

Regarding the work of constructing the plans for the main central dome, your architects have been controlled entirely by a desire to gain true proportion and symmetry for the entire building, and not to make the mistake which so many have already made of constructing a steeple or tower and calling it a dome. The opportunities which we have obtained, by the consent of the board, of visiting and studying the different buildings of the Eastern States, have given us an education that led us to revise, from time to time, the preliminary drawings of the original design as made by Mr. Piquenard, the designer of the building. By this experience, and the suggestions offered by your board, we have prepared the full working drawings for the dome, which, when executed, will be in much better proportion and symmetry of design than the original, and can be executed at very much less expense.

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The estimated cost for constructing the main dome of stone was \$391,389.60. The estimated cost of constructing the main dome of iron was \$354,803.82. By changing the plans, the Capitol Commissioners anticipated that the cost would be reduced. There is no mention in the Commissioners' Reports of the final cost of constructing the dome of stone as it was designed by Bell.

### Commissioners' Report

The Seventeenth General Assembly authorized the changing of the plans of the building as adopted August 3, 1872, and directed the construction of one large dome in the center of the building and four smaller domes on the pavillions, and made a further appropriation of \$75,000 to build the four small domes and finish the roof.

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### [HF 299 – New Capitol](#)

### Commissioners' Report 1882 — Report of the Superintendent of Construction

The deck-roof has been made over the stylobate of main dome, the entire exterior of which has been completed, with the exception of painting, gilding, and cleaning and pointing the stone work. The interior iron work for dome and canopy is completed, together with the iron stairs leading from the level of the stylobate to the lantern, with the exception of the wood hand-rail and wainscoting.

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By November of 1881, the main dome was complete except the painting and gilding. "The vertical part of the dome is stone and brick, the hemispherical part is made of a light iron frame work, consisting of vertical eye beam ribs, tied with horizontal bands of flat iron, and filled in between the ribs and inside the bands with a brick wall or arch, diminishing in thickness from fourteen inches at the springing line to four and a half inches at the ring which forms the base of the lantern."



"There are 667,525 bricks in the dome wall."

"The total weight of the constructive portion of the hemispherical part of the dome is 487,000 pounds."

### Construction and Finance Reports

*Consolidated Report of the Superintendent of Construction for the years 1880 and 1881:*

I purchased at different times, as reported at the several Board meetings, brick of the following named persons:

W. G. Bagg .....	18,035
Norman Haskins.....	107,253
Morris & Daugherty .....	420,403
J. W. Shackelford.....	83,918
Wm. Fredregill .....	92,093
J. J. Fredregill.....	160,081
S. A. Robertson .....	49,485
W. R. Close .....	33,877
N. B. Cooley .....	66,754
Morris & Daugherty—octagon.....	4,300
Bechtel & Manthe.....	50,812
Argillo Works—fire brick .....	8,000
Union Press Brick Co.—pressed brick .....	16,000
<b>Total brick purchased in 1880 .....</b>	<b>1,120,011</b>

Total amount paid for brick in 1880 was \$7,778.23.

(Summary from the *Report of the Superintendent of Finance*)

I bought during the year of the following parties the brick needed for the work:

S. A. Robertson .....	144,032
Morris & Daugherty ....	141,443
Wm. G. Bagg ..	131,464
N. B. Cooley .....	61,299
Philip Bechtel ...	68,885
Bechtel & Manthe .....	12,550
Shackelford & Fredregill.....	121,111
Francis Geneser .....	51,998
Francis Geneser—pressed brick .....	1,350
Argillo Works—fire brick .....	11,000
<b>Total brick purchased in 1881 .....</b>	<b>745,132</b>

Total amount paid for brick in 1881 was \$6,798.42.

(Summary from the *Report of the Superintendent of Finance*)



Not all of the bricks purchased in 1880 and 1881 were used in the construction of the main dome. Commissioners' Reports do not indicate which individuals or companies were providing brick for the dome only, or what portion of the brick they were providing was used in constructing the main dome.

### Dome Renovation 2017-2018

A project began in the spring of 2017 to replace brick in the dome. Moisture has compromised the integrity of the brick structure. About 12,000 bricks will be replaced during this project, which is estimated to cost about \$10 million and take about two years.

Taken during the summer of 2017, these photographs allow views of each structural detail mentioned in the Capitol Commissioners' Reports.



**Vertical eye beam ribs**

**Horizontal bands of flat iron**

**Ring that forms the base of the lantern**

**Between the ribs and inside the bands, a brick wall**



**Interior view of the copper sheets that cover the exterior of the dome**

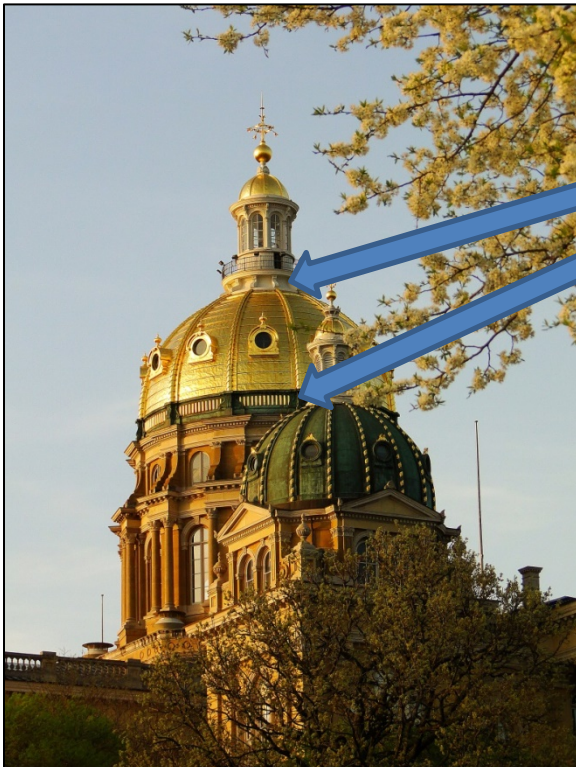


**Horizontal flat iron band**





**Springing line (the point at which the dome wall begins to curve and forms an arch)**



**Hemispherical part of the dome  
(Gary Hoard Photography)**



**Above: This is where the aluminum braces for the new floor attach to the structural beams of the dome. The holes have been drilled for the bolts. This is just above the round windows at the springing line of the dome. (Summer 2017)**

**Below: The new "floor," or moisture barrier, in the dome is constructed of aluminum and fiberglass. (Early 2018)**





*The bricks being removed from the dome will be sold to raise money for the Capitol Monuments and Memorials Fund supporting the maintenance and restoration of the more than 45 monuments around the Capitol grounds. The Capitol dome bricks that survive the removal process will be available at the Capitol Gift Shop beginning in March 2018. You can also order online*

*at: [www.legis.iowa.gov/store](http://www.legis.iowa.gov/store). There will be an estimated 1,200 bricks available for \$100 each. There is an additional \$15.00 charge for shipping if you order online.*



This video composite of the dome renovations has been provided courtesy of OPN Architects, Inc. [Click for Video](#)